

Pengaruh pemberian Kurkumin terhadap kadar Malondialdehida darah tepi penderita endometriosis = The effect of Curcumin on plasma Malondialdehydes endometriosis patients

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Abstrak

[ABSTRAK

Latar Belakang: Endometriosis diperkirakan ditemukan pada 2-22% wanita usia reproduksi yang asimtomatik, sedangkan pada wanita yang mengalami dismenore, prevalensinya meningkat menjadi 40-60%. Terapi yang ada saat ini adalah terapi medikamentosa, terapi pembedahan, atau gabungan dari keduanya. Namun belum ada yang dapat berhasil menghilangkan penyakit ini. Hal ini dibuktikan dengan angka kekambuhan endometriosis yang cukup tinggi, yaitu 33,3-40,3%. Pada penderita endometriosis, terjadi proses inflamasi akibat adanya stress oksidatif yang berasal dari perdarahan siklik. Pada perdarahan siklik ini didapatkan heme dan besi yang merupakan suatu oksidan. Beratnya stress oksidatif yang terjadi dapat dilihat dari kadar malondialdehida dalam darah karena radikal bebas yang merupakan bagian dari ROS akan mengubah asam lemak jenuh menjadi aldehid dan malondialdehida (MDA). Telah diketahui bahwa kadar MDA pada jaringan endometriosis lebih tinggi secara bermakna dibandingkan dengan endometrium eutopik. Kurkumin diketahui mempunyai efek antiinflamasi, antioksidan, dan imunomodulator. Efek antioksidan dari kurkumin bekerja dengan cara mengurangi jumlah radikal bebas yang beredar.

Tujuan: Menilai pengaruh pemberian kurkumin terhadap stress oksidatif pada penderita endometriosis.

Metode: Penelitian ini merupakan suatu penelitian uji klinis acak tersamar ganda dengan kontrol pasien yang mendapat kapsul plasebo selama periode Desember 2014 ? Mei 2015. Pengambilan sampel dilakukan dengan consecutive sampling.

Hasil: Sejumlah 12 subjek dari kelompok kurkumin diberikan perlakuan dengan 1x100 mg kurkumin selama 2 bulan, sedangkan 12 subjek pada kelompok kontrol diberikan kapsul plasebo selama 2 bulan, setelah sebelumnya diambil MDA pre perlakuan. Satu pasien dari kelompok kurkumin dan 2 dari kelompok kontrol drop-out karena tidak kembali pada akhir bulan kedua untuk pengambilan MDA pasca perlakuan. Rerata awal kadar MDA subjek kelompok plasebo adalah $0,39 \pm 0,39$ nmol/ml dengan rerata kadar MDA di akhir intervensi $0,32 \pm 0,14$ nmol/ml. Penurunan tersebut tidak bermakna berdasarkan uji statistik dengan nilai $p=0,80$. Rerata awal (baseline) kadar MDA subjek dengan suplementasi kurkumin adalah $0,33 \pm 0,21$ nmol/ml dengan rerata kadar MDA pasca intervensi berkurang menjadi $0,31 \pm 0,13$ nmol/ml. Secara statistik penurunan kadar MDA pasca suplementasi kurkumin tidak bermakna ($p=0,84$). Tidak didapatkan perbedaan bermakna kadar MDA awal antar kedua kelompok ($p=0,56$). Demikian juga pada kadar MDA akhir intervensi dan perubahan (delta) kadar MDA antar kedua kelompok setelah intervensi, tidak dijumpai perbedaan bermakna secara statistik dengan $p=0,85$ dan $p=0,81$, berturut-turut

Kesimpulan: Tidak terdapat penurunan kadar MDA yang bermakna pada subjek dengan suplementasi kurkumin maupun plasebo.

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ABSTRACT

Background: Endometriosis is estimated to be found in 2-22% asymptomatic reproductive women, while women with dysmenorrhea, the prevalence increased to 40-60%. Current management is medical therapy, surgical therapy, or a combination of both. But no one has been able to successfully eliminate this disease. This is proven by endometriosis recurrence rate is high enough, ranging from 33.3 to 40.3%. In endometriosis, inflammatory process occurs as a result of oxidative stress originating from cyclic bleeding. At this cyclic bleeding obtained heme and iron which is an oxidant. Free radicals that are part of the ROS (reactive oxygen species) will change the saturated fatty acids to aldehydes and malondialdehydes (MDA), so oxidative stress that occurs can be seen from plasma malondialdehyde levels. In recent study, MDA levels in endometriosis tissue was significantly higher than the eutopic endometrium. Curcumin is known to have anti-inflammatory, antioxidant and immunomodulatory effects. Antioxidant effects of curcumin works by reducing the amount of circulating free radicals.

Objective: Assess the effect of curcumin on oxidative stress in endometriosis patients

Methods: This study is a randomized double-blind clinical trial with control groups receiving placebo capsules for the period December 2014 - May 2015. Sampling was conducted by consecutive sampling.

Results: Twelve subjects of the treatment group was given curcumin 1x100 mg, while 12 subjects in the control group was given placebo capsules for 2 months. Peripheral blood was taken for MDA levels pre treatment. One patient from curcumin group and 2 from the control group dropped out because they do not come at the end of treatment for MDA measurement. The mean initial MDA level of placebo group was 0.39 ± 0.39 nmol / ml with a mean MDA levels at the end of the intervention 0.32 ± 0.14 nmol / ml. The decrease was not statistically significant with $p = 0.80$. The mean initial MDA levels of curcumin group was 0.33 ± 0.21 nmol / ml with a mean at the end of intervention was 0.31 ± 0.13 nmol / ml. The decrease was not statistically significant with $p = 0.84$. There were no significant differences between the initial MDA levels both groups ($p = 0.56$). Likewise, at MDA levels post intervention and delta between the MDA pre and post intervention on both groups, found no statistically significant with $p = 0.85$ and $p = 0.81$, respectively.

Conclusions: There was no significant decrease in MDA levels in subjects with curcumin supplementation or placebo., Background: Endometriosis is estimated to be found in 2-22% asymptomatic reproductive women, while women with dysmenorrhea, the prevalence increased to 40-60%. Current management is medical therapy, surgical therapy, or a combination of both. But no one has been able to successfully eliminate this disease. This is proven by endometriosis recurrence rate is high enough, ranging from 33.3 to 40.3%. In endometriosis, inflammatory process occurs as a result of oxidative stress originating from cyclic bleeding. At this cyclic bleeding obtained heme and iron which is an oxidant. Free radicals that are part of the ROS (reactive oxygen species) will change the saturated fatty acids to aldehydes and malondialdehydes

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